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EXAMINER

BATTAGLIA, MICHAEL V

ART UNIT PAPER NUMBER

2652

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/764,026

Applicant(s)

REDMOND ET AL.

Examiner

Michael V Battaglia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-16 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) 4-7, 13-15, 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 11, 12, 16, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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DETAILED ACTION

This action, dated November 4, 2004, is in response to Applicant's amendment, filed July 26, 2004. Claims 1-8, 11-16 and 19-22 are pending. Claims 4-7, 13-15, 21 and 22 have been withdrawn from consideration.

Claim Objections

1. Claim 8 is objected to because of the following informality. On line 10 of claim 8, replacing "second optical element" with -beamshaper- is suggested to avoid improper antecedent basis issues. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (US 5,995,476).

In regard to claim 1, Kim discloses a method for providing an optical head in a read/write device comprising: positioning a light source (Fig. 1, element 12) with respect to an optical head substrate (Fig. 1, element 2); positioning at least a first optical element (Fig. 1, element 15) along an

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optical path from said light source to an objective (Fig. 1, element 16), wherein said optical path defines at least a farthest virtual source point (Fig. 1); and providing at least a first beamshaper in said optical path (Fig. 1, element 14 and Col. 1, lines 39-42), wherein a farthest virtual source point of said optical path after said first beamshaper is provided is substantially the same as said farthest virtual source point before said first beamshaper is provided (Fig. 1). It is noted that the farthest position of a virtual point source of the optical path is the same whether or not the first beamshaper is provided.

In regard to claim 2, Kim discloses that said beamshaper and said first optical element are positioned on a single integral optical element unit (Fig. 1, element 10).

In regard to claim 3, Kim discloses that said first optical element is a non-beamshaper element (Fig. 1, element 15 and Col. 1, lines 35-38).

3. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al (hereafter Lee) (US 6,359,845).

In regard to claim 1, Lee discloses a method for providing an optical head in a read/write device comprising: positioning a light source (Fig. 8, element 11 of Fig. 7, element 20) with respect to an optical head substrate (Fig. 8, unlabeled element below light source); positioning at least a first optical element (Fig. 8, element 15 of Fig. 7, element 20) along an optical path from said light source to an objective (Fig. 7, element 16), wherein said optical path defines at least a farthest virtual source point (Fig. 7); and providing at least a first beamshaper in said optical path (Fig. 7, element 14), wherein a farthest virtual source point of said optical path after said first beamshaper is provided is substantially the same as said farthest virtual source point before said first beamshaper is provided (Fig. 7). The substrate or underlying layer below the light source (Fig. 8, element 11) in the second hologram unit (Fig. 7, element 20) is interpreted as an optical head

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substrate because the substrate is part of the optical head. It is noted that the farthest position of a virtual source point of the optical path is the same whether or not the first beamshaper is provided because the first beamshaper (Fig. 7, element 14) diverges the optical path.

In regard to claim 3, Lee discloses that said first optical element is a non-beamshaper element (Fig. 8, element 15; Col. 5, lines 60-62; and Col. 6, lines 21-24).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 11, 12, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimano et al (hereafter Shimano) (US 5,930,220) in view of Ngoi et al (hereafter Ngoi) (US 6,195,208).

In regard to claim 8, Shimano discloses an optical head apparatus for use in a read/write device comprising: an optical head substrate (Fig. 2, element that element 1 is inherently mounted to or supported by); a light source (Fig. 2, element 1) positioned with respect to said optical head substrate; and a first optical element (Fig. 2, element 2) positioned along an optical path from said light source to an objective (Fig. 2, element 7). Shimano further discloses that the light source emits an elliptical light beam and that the optical head apparatus can be implemented with a beamshaper to shape the light beam into a circular beam (Col. 6, lines 27-32 and 41-47). Shimano does not disclose that the optical head apparatus comprises a beamshaper in said optical path,

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wherein a virtual source point of said optical path when said beamshaper is provided is substantially the same as said virtual source point before said beamshaper is provided. It is noted that the first optical element of Shimano has a collimating function.

Ngoi discloses a beamshaper (Figs. 2, 3 and 5, element 5) in an optical path, wherein a virtual source point (Fig. 2, element 1a) of said optical path when said beamshaper is provided is substantially the same as said virtual source point before said beamshaper is provided. Ngoi discloses that the beamshaper is integrated with a first optical element (Fig. 2, elements 4 and 5a) that has a collimating function and that by doing so a reduction in the number of elements needed to shape and collimate the light beam, a decrease in the cost of manufacture, a reduction in weight, miniaturization and reduction in alignment difficulty are provided.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the first optical element of Shimano with the integrated first optical element and beamshaper of Ngoi, the motivation being to provide the optical head apparatus of Shimano with a beamshaper while maintaining the same number of elements, keeping cost of manufacture, size and weight low, and not increasing alignment difficulty.

In regard to claim 16, Shimano discloses an optical head apparatus for use in a read/write device comprising: an optical head substrate (Fig. 2, element that element 1 is inherently mounted to or supported by); a light source means (Fig. 2, element 1) for outputting light, positioned with respect to said optical head substrate; and a first optical means (Fig. 2, element 2) for modifying said light, positioned along an optical path from said light source means to an objective means (Fig. 2, element 7). Shimano further discloses that the light source emits an elliptical light beam and that the optical head apparatus can be implemented with a beamshaper to shape the light beam into a circular beam (Col. 6, lines 27-32 and 41-47). Shimano does not disclose that the optical

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head apparatus comprises a beamshaper for modifying said light, said beamshaper positioned in said optical path, wherein a value of a virtual source point of said optical path when said beamshaper is provided is substantially the same as a value of said virtual source point before said beamshaper is provided. It is noted that the first optical element of Shimano has a collimating function.

Ngoi discloses a beamshaper (Figs. 2, 3 and 5, element 5) for modifying said light, said beamshaper positioned in said optical path, wherein a value of a virtual source point (Fig. 2, element 1a) of said optical path when said beamshaper is provided is substantially the same as a value of said virtual source point before said beamshaper is provided. Ngoi discloses that the beamshaper is integrated with a first optical element (Fig. 2, elements 4 and 5a) that has a collimating function and that by doing so a reduction in the number of elements needed to shape and collimate the light beam, a decrease in the cost of manufacture, a reduction in weight, miniaturization and reduction in alignment difficulty are provided.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the first optical element of Shimano with the integrated first optical element and beamshaper of Ngoi, the motivation being to provide the optical head apparatus of Shimano with a beamshaper while maintaining the same number of elements, keeping cost of manufacture, size and weight low, and not increasing alignment difficulty.

In regard to claims 11 and 19, Ngoi discloses that the beamshaper and first optical element are positioned on a single integral optical element unit (Fig. 3).

In regard to claims 12 and 20, Ngoi discloses that the first optical element is a non-beamshaper element (Fig. 2, elements 4 and 5a). It is noted that for this claim, Applicant's interpretation of a beamshaper (Page 7, lines 1-8 of Remarks) is relied upon.

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Response to Arguments

5. Applicant's arguments filed July 26, 2004 with regard to claims 1-3 have been fully considered but they are not persuasive. Applicant discusses features of the invention which are not claimed (i.e., the beamshaper turning an elliptical beam into a circular beam to equalize power in both the major and minor axis directions). A beamshaper is interpreted as an optical element that shapes a beam of light. No function of the beamshaper is claimed other than that it does not substantially change a farthest virtual point source of an optical path. The beamshaper of Lee (Fig. 7, element 14) is a beamshaper because it changes the shape of beam emitted from the second hologram unit (Fig. 7, element 20) into a beam that has more divergent shape. The beamshaper of Kim (Fig. 1, element 14) is a beamshaper because it changes the shape of the beam emitted from the light source (Fig. 1, element 12) into a beam that has the shape of a main beam and two sub-beams.

6. Applicant's arguments with respect to claims 8, 11, 12, 16, 19 and 20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

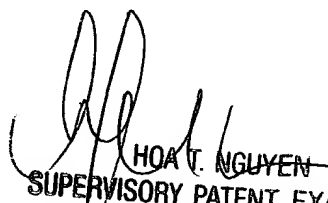
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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